



November 7, 2005

Ms. Peggy Carr Sonoma County Department of Health Services 475 Aviation Boulevard, Suite 220 Santa Rosa, California 95403-2097

Subject:

Third Quarter 2005 Groundwater Monitoring Report

Rotten Robbie Service Station No. 60

55 E Todd Road, Santa Rosa, Sonoma County, California

Apex Project No RMA01 001

Dear Ms. Carr:

Apex Envirotech, Inc. (Apex) has been authorized by Robinson Oil Corporation (Robinson) to provide this report documenting the results of groundwater monitoring. This report covers the third quarter groundwater monitoring event conducted on September 13, 2005. Groundwater monitoring results are provided in the attached figures and tables. Apex standard operating procedures, field data, and analytical results are provided as attachments.

This report is based in part, on information obtained by Apex from Robinson and is subject to modification as newly acquired information may warrant.

#### SITE DESCRIPTION

The subject property is located at 55 East Todd Road, Santa Rosa, Sonoma County, California. The site has historically been operated as Dave's Pit Stop, a retail automotive and truck fueling station and convenience store.

#### BACKGROUND

August 18, 2003 - RM Associates (RMA) supervised the installation of eight soil borings at the subject property as part of a Phase II Environmental Site Assessment conducted in association with the sale of the property from Mr. Dave Zedrick to Robinson. RMA collected soil samples from three of the borings and groundwater samples from all eight of the borings. RMA documented the results in, *Report of Phase II Environmental Site Assessment*, dated October 13, 2003.

September 9, 2003 - Sonoma County Department of Health Services (SCDHS) requests a workplan to investigate the site.

November 4 - 5, 2003 - Soil and pavement were excavated from above the former gasoline and diesel underground storage tanks (UST). The materials were temporarily stockpiled onsite, pending analysis and profiling RMA sampled the stockpiled soil on November 6, 2003

November 7, 2003 - Armer/Norman and Associates removed the five former USTs. No holes were noted in any of the USTs. Under the direction of the Sonoma County Department of Emergency Services and the SCDHS, RMA collected confirmation soil samples from the UST basin. Ecology Control Industries under Uniform Hazardous Waste Manifests hauled the USTs offsite.

November 10, 2003 - RMA collected five 4:1 composite soil samples from the stockpiled soil that had been removed from the new UST location.

December 3, 2003 - The former product lines and dispensers were removed RMA collected confirmation samples and six 4:1 composite samples from the stockpiled soil.

January 16, 2004 - RMA documented the results of the UST removal and replacement, Report of Underground Storage Tank Removal.

February 23, 2004 - Apex submitted, *Workplan for Preliminary Site Assessment*, outlining the installation and sampling of 10 direct-push soil borings and four groundwater monitoring wells. The SCDHS approved the workplan in a letter dated March 9, 2004.

June 15 - 16, 2004 - Apex supervised the installation of nine direct-push soil borings (GP-1, GP-3 through GP-10) to delineate the lateral and vertical extent of soil and groundwater contamination beneath the site GP-1, GP-3, GP-4 and GP-6 through GP-10 were drilled to a total depth of 12 feet bgs, and GP-5 was drilled to a total depth of 20 feet bgs.

July 7 - July 9, 2004 - Apex personnel supervised vacuum clearing, drilling, sampling and installation of four groundwater monitoring wells (MW-1 through MW-4).

November 9, 2004 - Apex submitted the report, *Preliminary Site Assessment Results Report and Fourth Quarter 2004 Groundwater Monitoring Report*, detailing activities and results for boring and monitoring well installation activities.

December 30, 2004 - SCDHS requested a workplan to complete characterization of the site. In addition, the SCDHS requested completion of a sensitive receptor survey

March 2, 2005 - Apex submitted the report, Sensitive Receptor Survey and Workplan for Additional Site Characterization, proposing the installation of three additional soil borings, and five groundwater monitoring wells to further characterize the site.

April 28, 2005 - Apex submitted a "Clarification Letter" to address the concerns of the SCDHS

May 16, 2005 - The SCDHS approved the workplan, dated March 2, 2005.

Third Quarter 2005 Groundwater Monitoring Report 55 E Todd Road, Santa Rosa, Sonoma County, California Page 3

October 4-6, 2005 - Apex personnel supervised the installation of four additional onsite groundwater monitoring wells (MW-5 through MW-7), three direct push borings (GP-1B, GP-5B, and GP-11), and is currently preparing a results report documenting drilling activities.

#### **GENERAL SITE INFORMATION**

Site name:

Rotten Robbie Service Station

Site address:

55 E Todd Road, Santa Rosa, California

**Current property owner:** 

Mr Tom Robinson

**Current site use:** 

Active gasoline station

Tanks at site:

1,000 gallon, 2-20,000 gallon, and 2-12,000 gallon

Number of wells:

4 monitoring wells

#### **GROUNDWATER MONITORING SUMMARY**

Gauging and sampling date:

September 13, 2005

Wells gauged and sampled:

MW-1 through MW-4

Wells gauged only:

None

Groundwater flow direction:

West southwest

Groundwater gradient:

0 015 ft/ft

Floating liquid hydrocarbon:

None

Laboratory:

California Laboratory Services, Inc., Rancho Cordova,

California

#### **Analysis Performed:**

Analysis	Abbreviation	Designation	USEPA Method No.
Total Petroleum Hydrocarbons as Gasoline	TPHg	Gas/Diesel	8015 Modified
Total Petroleum Hydrocarbons as Diesel	TPHd	Range Hydrocarbons	ours Modified
Benzene Toluene		Aromatic	
Ethylbenzene	BTEX	Volatile Organics	8021B
Xylenes (Total)		Organioo	
Tertiary Butyl Alcohol	TBA		
Methyl Tertiary Butyl Ether	MTBE		
Di-isopropyl Ether	DIPE	Seven Fuel	8260B
Ethyl Tertiary Butyl Ether	ETBE		
Tertiary Amyl Methyl Ether	TAME	Oxygenates	
Methanol			8015M
Ethanol			90 LOÍAI
1,2-Dichloroethane	1,2 - DCA	Lead	8260B
Ethylene dibromide	EDB	Scavengers	02000

#### **Modifications from Standard Monitoring Program:**

None

#### **CONCLUSIONS**

Based on groundwater analytical results, well MW-1 contains concentrations of ethylbenzene at historical highs. Well MW-4 was within historical limits. Concentrations of MTBE and TBA at well MW-3 have been decreasing. Well MW-2 concentrations were at a historical low this quarter, except TBA, which was within historical limits.

The hydrocarbon plume is currently not defined.

Groundwater elevation has decreased an average of 4.78 feet this quarter.

#### RECOMMENDATIONS

Apex recommends continued groundwater monitoring. The next sampling event is scheduled for December 2005, and will include the newly installed groundwater monitoring wells MW-5 through MW-7.

#### ADDITIONAL ACTIVITIES PERFORMED AT SITE

Apex is currently preparing encroachment permits for the installation of two additional groundwater monitoring wells offsite (MW-8 and MW-9). Apex is also preparing a results report documenting the installation of wells (MW-5 through MW-7) installed on October 4, 2005, and direct push borings (GP-1B, GP-5B, GP-11) advanced on October 6, 2005.

#### **ATTACHMENTS:**

Figure 1: Site Vicinity Map Figure 2: Site Plan Map

rigare 2. Site i ian wap

Figure 3: Groundwater Contour Map: September 13, 2005

Figure 4: TPHg in Groundwater Isoconcentration Map: September 13, 2005
Figure 5: TPHd in Groundwater Isoconcentration Map: September 13, 2005
Figure 6: Benzene in Groundwater Isoconcentration Map: September 13, 2005
Figure 7: MTRF in Groundwater Isoconcentration Map: September 13, 2005

Figure 7: MTBE in Groundwater Isoconcentration Map: September 13, 2005

Table 1: Well Construction Details

 Table 2: Groundwater Elevation Data

Table 3: Groundwater Analytical Data

Appendix A: Apex Standard Operating Procedures

Appendix B: Field Data Sheets

Appendix C: Laboratory Analytical Report and Chain-of-Custody Form

#### **REPORT DISTRIBUTION:**

Apex submitted copies of this report to:

Ms. Peggy Carr Sonoma County Department of Health Services 475 Aviation Boulevard, Suite 220 Santa Rosa, California 95403-2097 (707) 565-6577

Mr. Luis Rivera North Coast Regional Water Quality Control Board 5550 Skylane Boulevard, Suite A Santa Rosa, California 95403

Mr. Tom Robinson Robinson Oil Corporation 4250 Williams Road San Jose, California 95129

Mr. Ron Michelson RM Associates 16401 Meadow Vista Drive, Suite 102 Pioneer, California 95666

Mr. Dave Zedrick P.O. Box 7010 Santa Rosa, California 95407

#### **REMARKS/SIGNATURES**

The information contained within this Report reflects our professional opinions and was developed in accordance with currently available information, and accepted hydrogeologic and engineering practices

The proposed work described above will be performed under the direct supervision of the professional geologist, registered with the State of California, whose signature appears below

We appreciate the opportunity to provide Robinson Oil Corporation with geologic, engineering and environmental consulting services, and trust this Report meets your needs. If you have any questions or comments, please call us at (916) 851-0174.

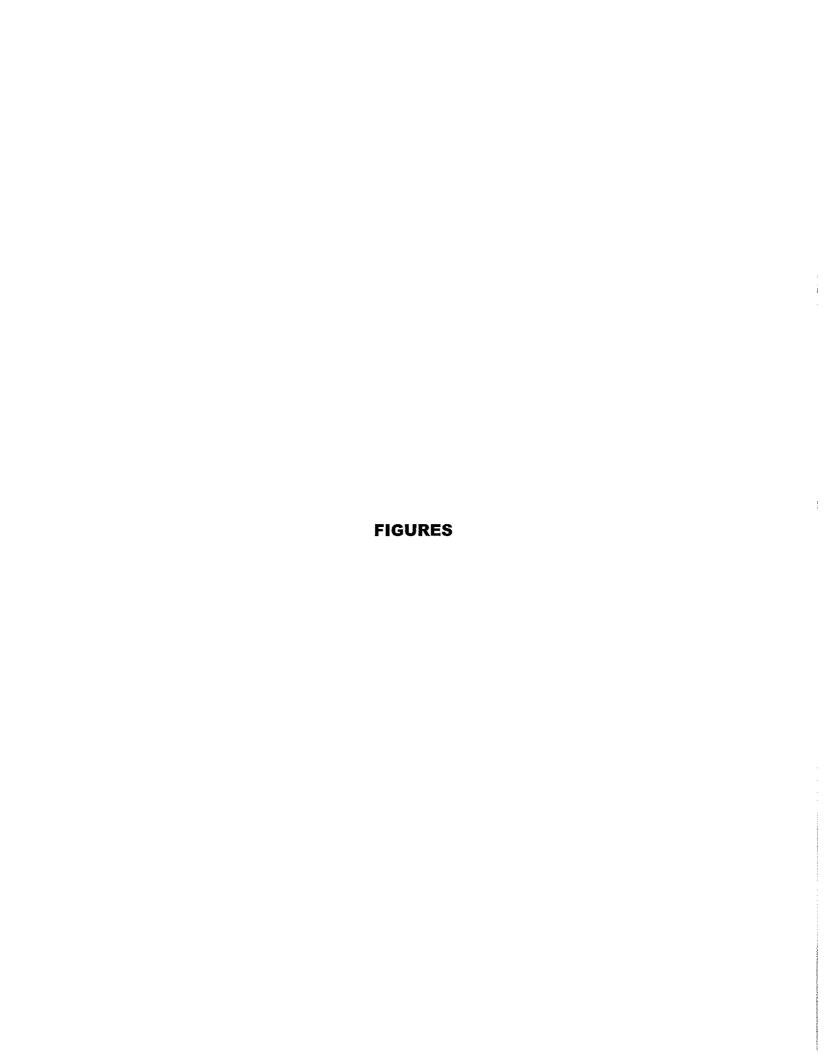
Sincerely,

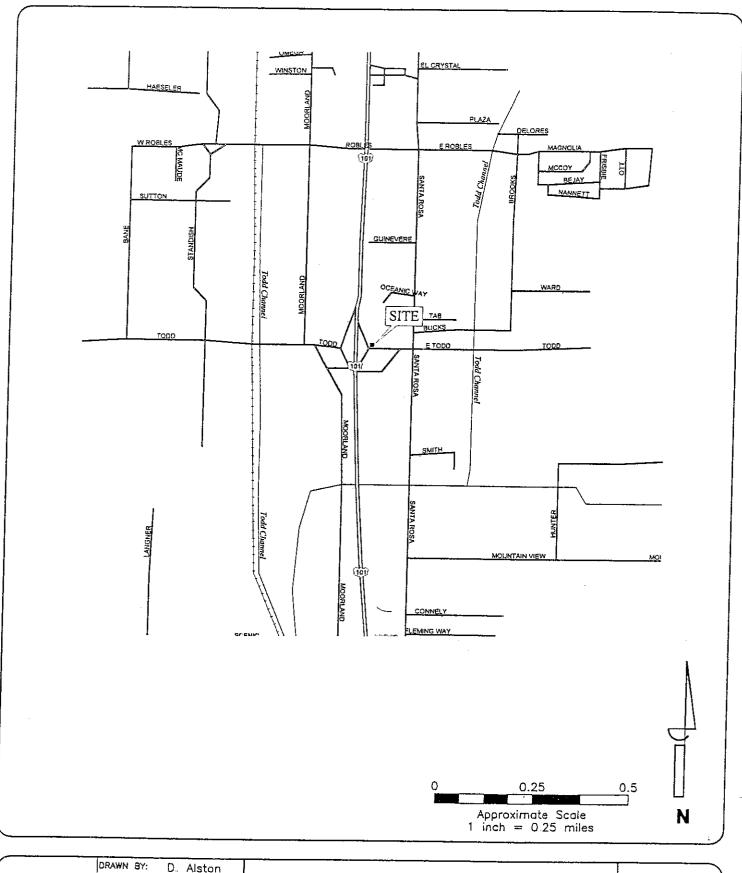
APEX ENVIROTECH, INC.

Rebekah A. Westrup Project Manager

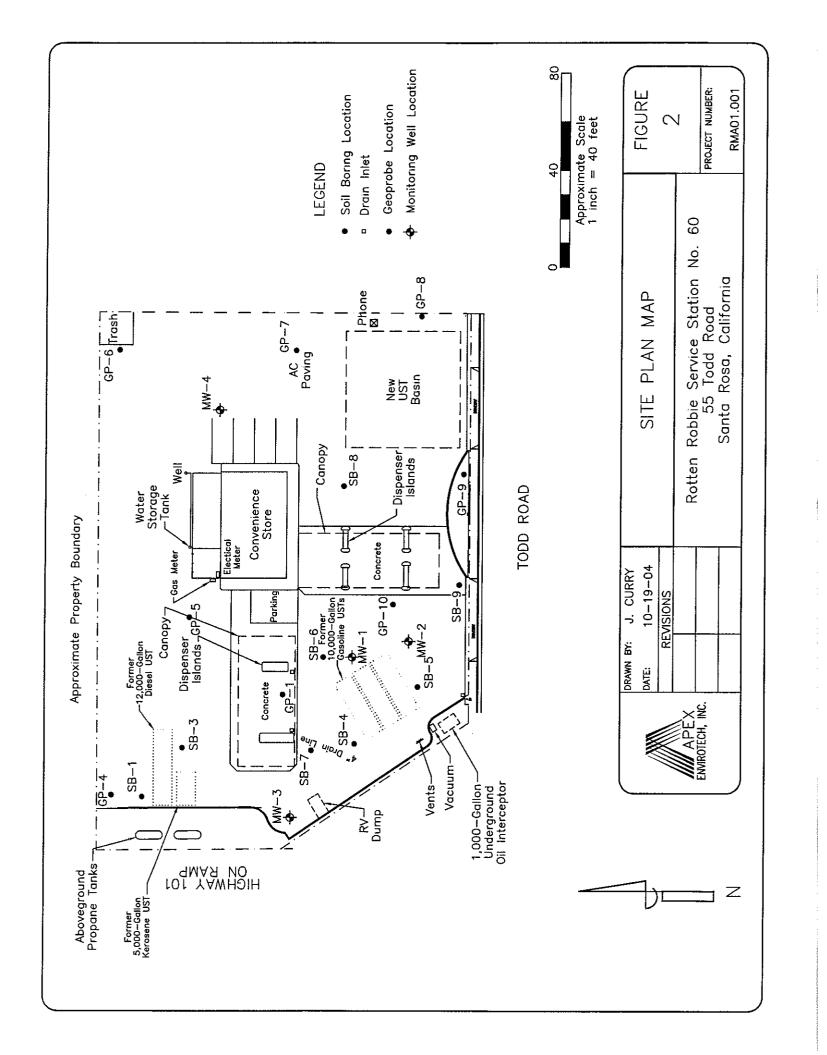
Michael S. Sgourakis, R.G. Senior Project Manager

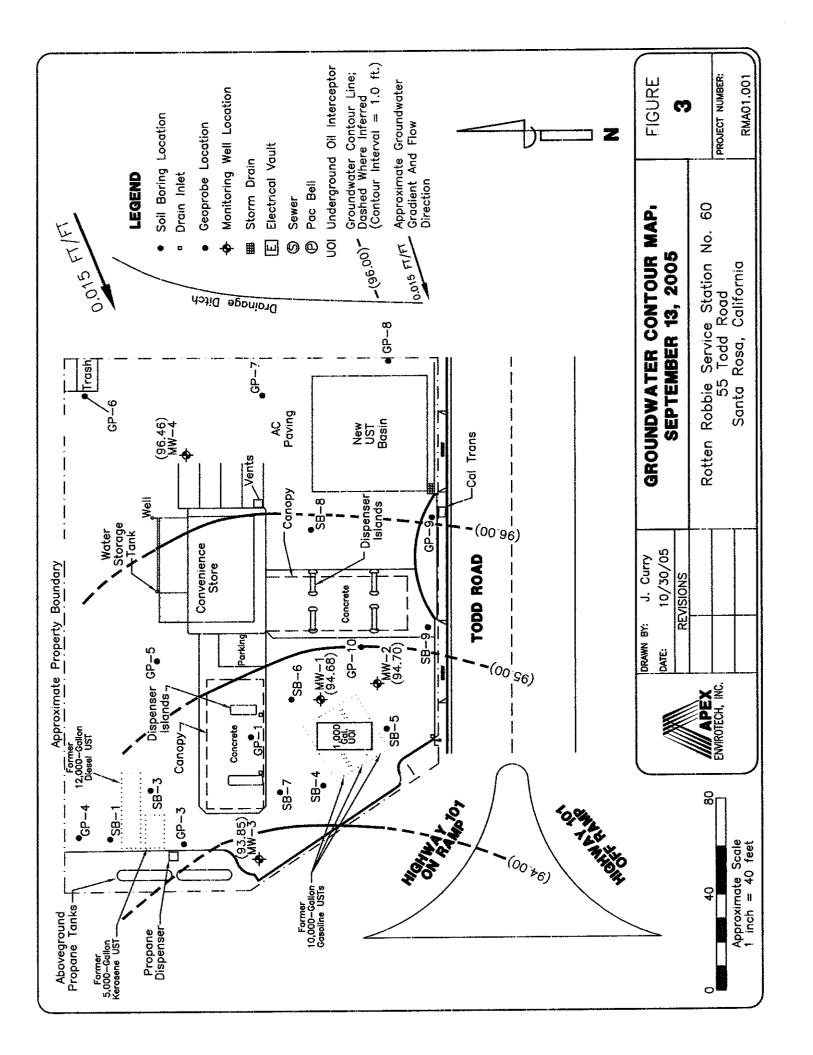
CRG No. 7194

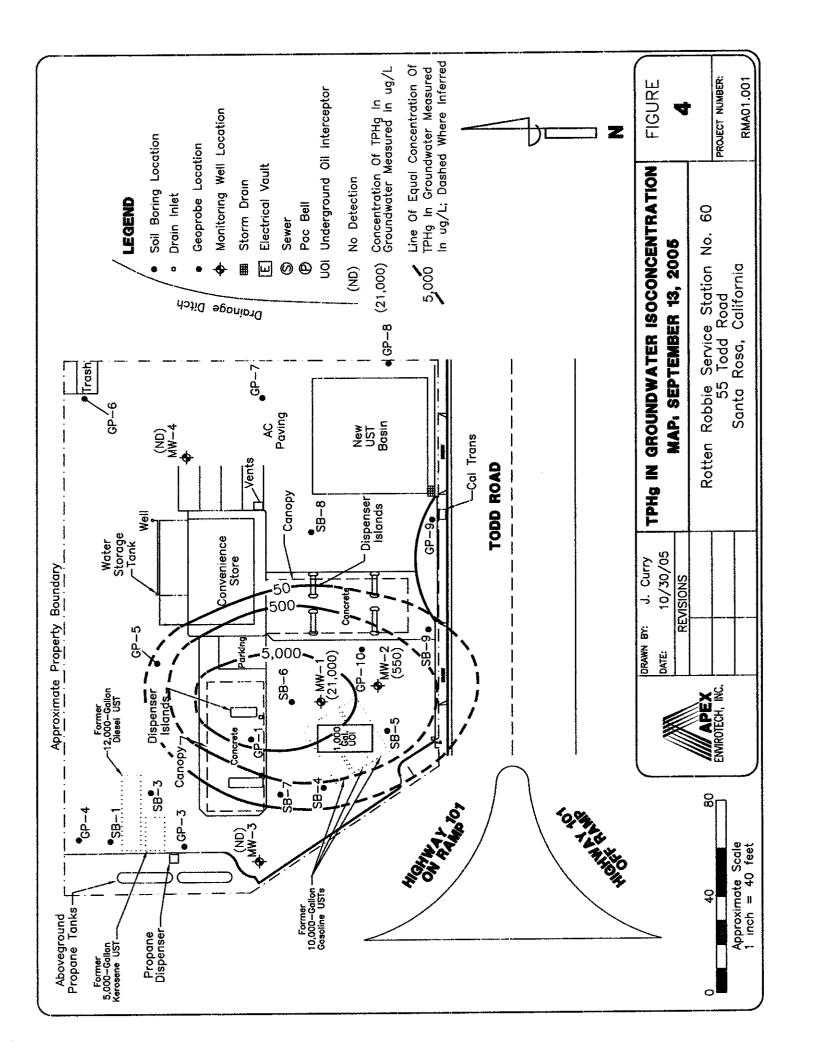


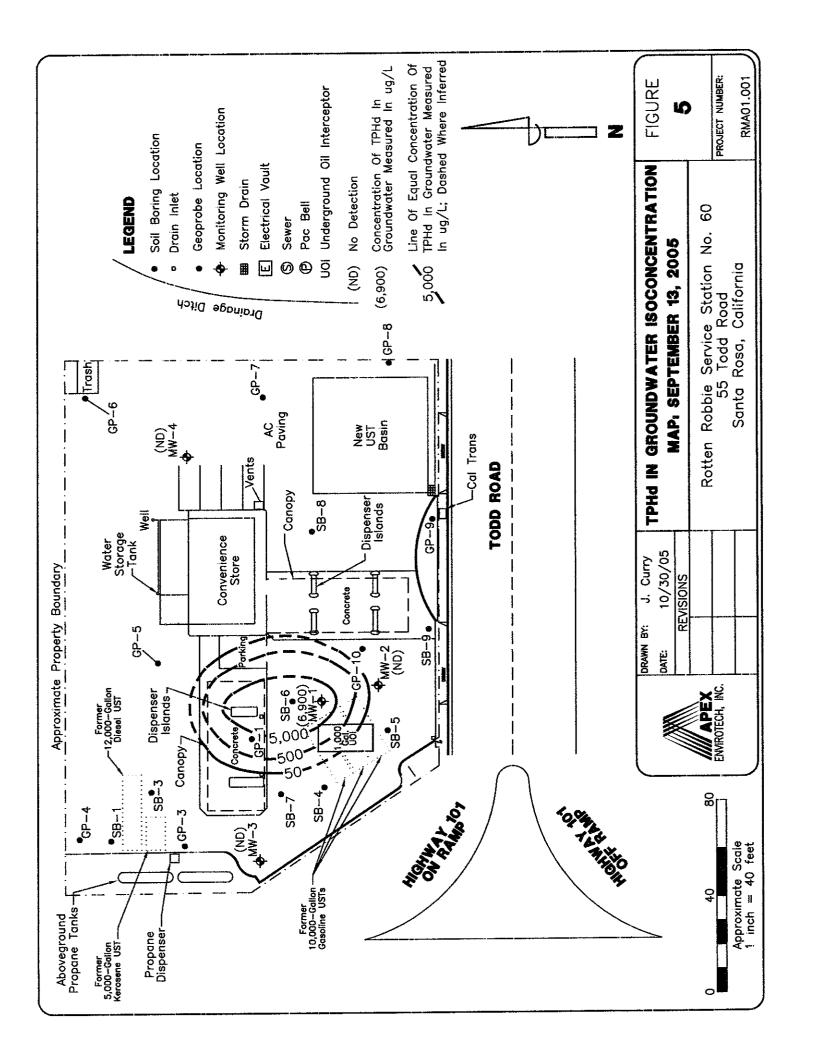


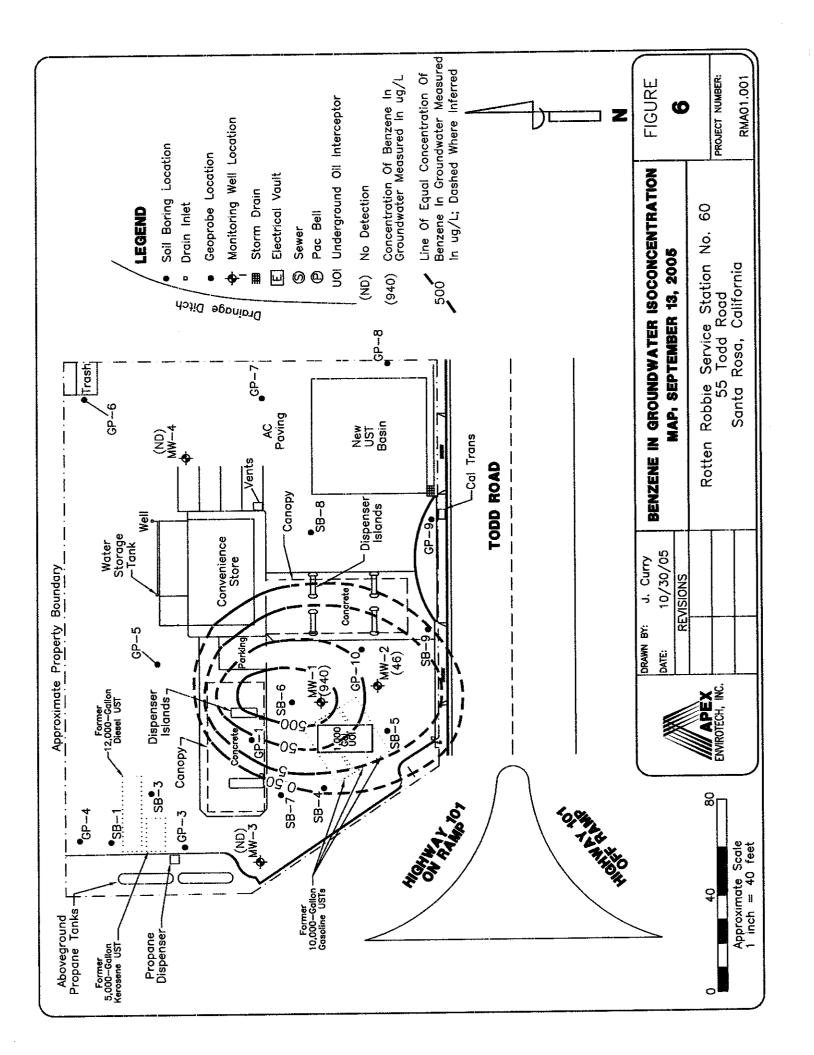
	DRAWN BY: D. Alston DATE: 2/10/04 REVISIONS	SITE VICINITY MAP	FIGURE
APEX ENVIROTECH, INC		Rotten Robbie Service Station No. 60 55 Todd Road Santa Rosa, California	PROJECT NUMBER:

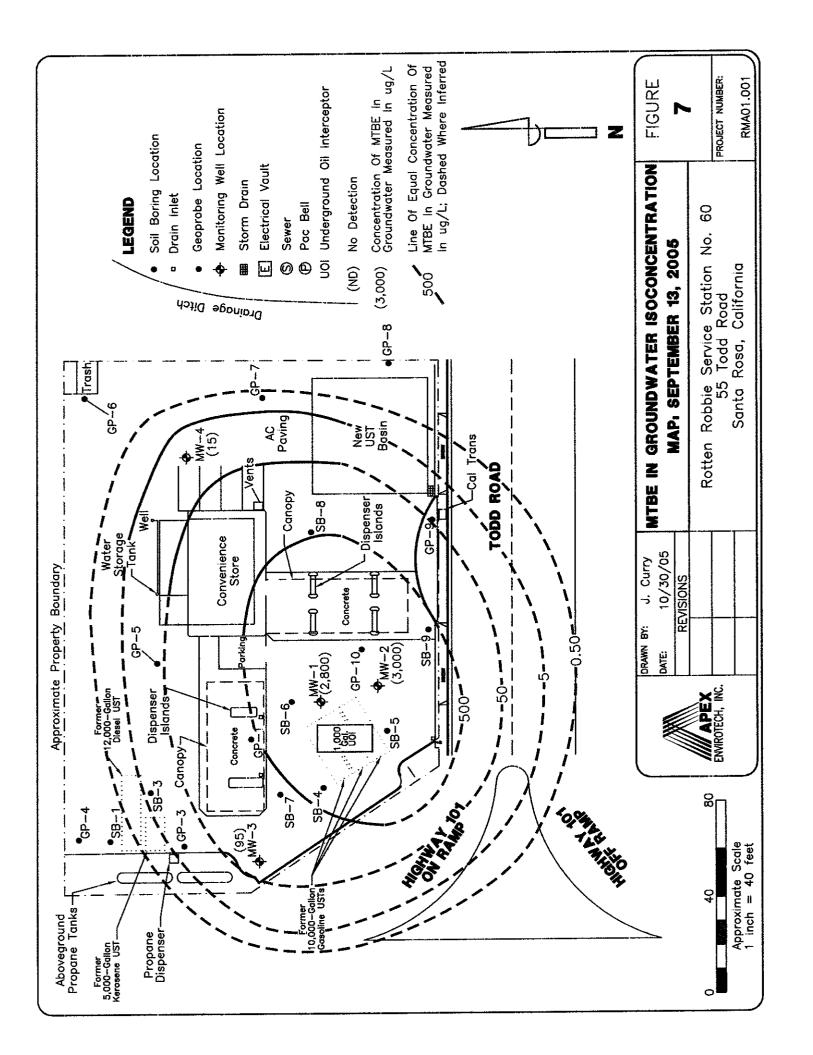


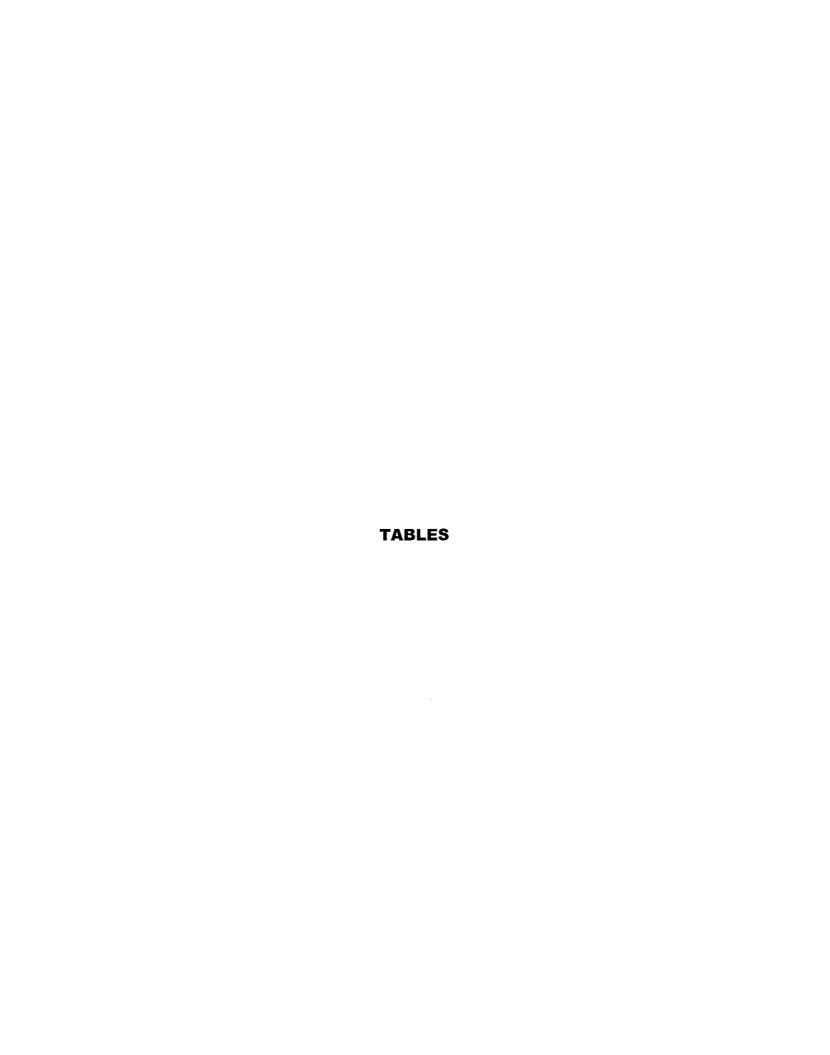












# TABLE 1 WELL CONSTRUCTION DETAILS

Rotten Robbies 55 Todd Road Santa Rosa, California

Well Number	Well Installation Date	*Elevation TOC (feet)	Casing Material	Total Depth (feet)	Well Depth (feet)	Casing Diameter (inches)	Screened Interval (feet)	Filter Pack Interval (feet)
MW-1	7/9/2004	104.67	PVC	23	23	6	3-23	2-23
MW-2	7/8/2004	104.15	PVC	23	23	4	3-23	2-23
MW-3	7/8/2004	104.87	PVC	23	23	4	3-23	2-23
MW-4	7/8/2004	105.94	PVC	23	23	2	3-23	2-23

#### Notes:

\* = Surveyed by Apex Envirotech Inc to mean sea level

TOC = Top of Casing

PVC = Polyvinyl Chloride

# TABLE 2 GROUNDWATER ELVATION DATA

Rotten Robbies 55 Todd Road Santa Rosa, California

Monitoring Well	Date	Reference Elevation (top of casing)	Depth to Groundwater	Groundwater Elevation
MW-1	10/20/04	104 67	11 89	92 78
	02/09/05		6.32	98 35
	05/12/05		4.94	99 73
	09/13/05		9.99	94 68
MW-2	10/20/04	104 15	10 99	93 16
	02/09/05		5.85	98.30
	05/12/05		4.49	99 66
	09/13/05		9.45	94.70
MW-3	10/20/04	104.87	12.95	91.92
	02/09/05		6.87	98 00
	05/12/05		5.29	99 58
	09/13/05		11 02	93 85
MW-4	10/20/04	105.94	10 86	95 08
	02/09/05		6.83	99.11
	05/12/05		6 09	99 85
	09/13/05		9.48	96 46

# APEX ENVIROTECH INC. THIRD QUARTER 2005 RMA01.001

# GROUNDWATER ANALYTICAL DATA Rotten Robbies 55 Todd Road Santa Rosa, California TABLE 3

		141	TPH as	Ar	omatic Vola	Aromatic Volatile Organics	S			Sey	Seven Oxgenates	es			Lead Scavengers	Vengers
Cample ID	Date	Gasoline	Diesel	Benzene	Toluene	Ethyl-	Total	DIPE	ETBE	MTBE	TAME	TBA	Methanol	Ethanol	1,2-DCA	EDB
July Salling	Collected					penzene	Xylenes									
		(ug/L)	(ug/L)	(ng/L)	(ug/L)	(ug/L)	(ng/L)	(ug/L)	(ng/L)	(ng/L)	(ug/L)	(ng/L)	(mg/L)	(mg/L)	(ng/L)	(ng/L)
MW-1	07/29/04	13,000	11,000	280	860	470	2,700	×40	×40	1,300	045	~ 400 -	<2.0	<2.0	×40	×40
	10/20/04	3,200	19,000	150	340	190	760	<0.50	<0.50	8,100	180	3,400	5.6	3.8	2.0	ļ
	02/09/05	24,000	3,400	1,300	2,100	1,200	4,500	<250	<250	14,000	<250	<2,500	<2.0	<2.0	<250	<250
	05/12/05	15,000	6,000	1,100	440	980	1,500	<50	<50	11,000	130	2,800	4.4	<2.0	<50	°20
	09/13/05	21,000	006'9	940	1,300	1,300	3,800	<100	<100	2,800	<100	<1,000	<2.0	<2.0	<100	<100
MW-2	07/29/04	4,600	2,600	160	12	56	290	<80	×80	13,000	85	4,300	<2.0	<2.0	× 80	
	10/20/04	2,100	1,200	220	20	57	86	<0.50	1.0	006'6	120	16,000	<2.0	<2.0	6.0	ſ
	02/09/05	6,100	280	77	89	77	240	<50	<50	16,000	180	20,000	<2.0	<2.0	<50	<b>~</b> 20
	05/12/05	2,200	350	199	23	46	87	<50	<50	30,000	560	37,000	<2.0	<2.0	<50	<50
	09/13/05	220	< <del>2</del> 0	46	6.5	17	17	<250	<250	3,000	<250	8,700	<2.0	<2.0	<250	<250
MW-3	07/29/04	<50	<50	<0.50	<0.50	<0.50	7	<0.50	<0.50	120	<0.50	240	00	\$	<0 50	<0.50
	10/20/04	\$	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	110	1.5	2,200	<2.0	<2.0	<0.50	
	02/09/05	×20	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	160	0.54	310	<2.0	<2.0	<0.50	<0.50
	05/12/05	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	61	<0.50	290	<2.0	<2.0	<0.50	<0.50
	09/13/05	<50	<50 <50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	95	<0.50	140	<2.0	<2.0	<0.50	<0.50
MW-4	07/29/04	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	7.0	<0.50	<5.0	<2.0	<2.0	<0.50	<0.50
	10/20/04	<50	<50	<0.50	<0.50	<0.50	41.0	<0.50	<0.50	41	<del>!.</del>	110	<2.0	<2.0	<0.50	ŀ
	02/09/05	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	19	<0.50	<5.0	<2.0	<2.0	<0.50	<0.50
	05/12/05	<50	<50	<0.50	1.0	<0.50	0.1	<0.50	<0.50	19	<0.50	5	<2.0	<2.0	<0.50	<0.50
	09/13/05	<50	<50	<0.50	<0.50	<0.50	√1.0	<0.50	<0.50	15	<0.50	<5.0	<2.0	<2.0	<0.50	<0.50

Notes:

TPH - Total Petroleum Hydrocarbons MTBE - Methyl Tertiary Butyl Ether DIPE - Di-isopropyl ether ETBE - Ethyl Tertiary Butyl Ether EDB - Ethylene dibromide TAME - Tertiary Annyl Methyl Ether TBA - Tertiary Butyl Alcohol

1,2-DCA -1,2-Dichloroethane
mg/L - milligrams per liter
ug/L - micrograms per liter
< - Below Laboratory Detection Limit
-- - not sampled

# APPENDIX A APEX STANDARD OPERATING PROCEDURES

#### APEX ENVIROTECH, INC.

STANDARD OPERATING PROCEDURES
Quarterly Monitoring Reports

#### SOP – 4 SAMPLE IDENTIFICTION AND CHAIN-OF CUSTODY PROCUDURES

Sample identification and chain-of-custody procedures ensure sample integrity as well as document sample possession from the time of collection to ultimate disposal. Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, other pertinent field observations also recorded on the field excavation or boring logs.

Chain-of-custody forms are used to record possession of the sample from time of collection to arrival at the laboratory. During shipment, the person with custody of the samples will relinquish them to the next person by signing the chain-of-custody form(s) and noting the date and time. The sample control officer at the laboratory will verify sample integrity, correct preservation, confirm collection in the proper container(s), and ensure adequate volume for analysis.

If these conditions are met, the samples will be assigned unique laboratory log numbers for identification throughout analysis and reporting. The log numbers will be recorded on the chain-of-custody forms and in the legally-required log book maintained in the laboratory. The sample description, date received, client's name, and any other relevant information will also be recorded.

#### SOP – 5 LABORATORY ANALYTICAL QUALITY ASSURANCE AND CONTROL

In addition to routine instrument calibration, replicates, spikes, blanks, spiked blanks, and certified reference materials are routinely analyzed at method-specific frequencies to monitor precision and bias Additional components of the laboratory Quality Assurance/Quality Control program include:

- Participation in state and federal laboratory accreditation/certification programs;
- Participation in both U.S. EPA Performance Evaluation studies (WS and WP studies) and inter-laboratory performance evaluation programs;
- 3 Standard operating procedures describing routine and periodic instrument maintenance;
- 4 "out-of-Control"/Corrective Action documentation procedures; and,
- 5 Multi-level review of raw data and client reports

#### SOP - 7 GROUNDWATER PURGING AND SAMPLING

Prior to water sampling, each well is purged by evacuating a minimum of three wetted well-casing volumes of groundwater When required, purging will continue until either the discharge water temperature, conductivity, or pH stabilize a maximum of ten wetted-casing volumes of groundwater have been recovered or the well is bailed dry

When practical, the groundwater sample should be collected when the water level in the well recovers to at least 80 percent of its static level.

The sampling equipment consists of either a "Teflon" bailer, PVC bailer, or stainless steel bladder pump with a "Teflon" bladder If the sampling system is dedicated to the well, then the bailer is usually "Teflon," but the bladder pump is PVC with a polypropylene bladder. In general and depending on the intended laboratory analysis, 40-milliliter glass, volatile organic analysis (VOA) vials, with "Teflon" septa, are used as sample containers

#### SOP – 12 MEASURING LIQUID LEVELS USING WATER LEVEL METER OR INTERFACE PROBE

Field equipment used for liquid-level gauging typically includes the measuring instrument (water-level meter or interface probe and product bailer(s)). The field kit also includes cleaning supplies (buckets, solution, spray bottles, and deionized water) to be used in cleaning the equipment between wells

Prior to measurements, the instrument tip is lowered into the well until it touches bottom. Using the previously established top-of-casing or top-of-box (i.e., wellhead vault) point, the probe cord (or halyard) is marked and a measuring tape (graduated in hundredths of a foot) is used to determine the distance between the probe end and the marking on the cord. This measurement is then recorded on the liquid-level data sheet as the "Measured Total Depth" of the well

When necessary in using the interface probe to measure liquid levels, the probe is first electrically grounded to either the metal stove pipe or another metal object nearby. When no ground is available, reproducible measurements can be obtained by clipping the ground lead to the handle of the interface probe case.

The probe tip is then lowered into the well and submerged in the groundwater. An oscillating (beeping) tone indicates the probe is in water. The probe is slowly raised until either the oscillating tone ceases or becomes a steady tone. In either case, this is the depth-to-water (DTW) indication of the DTW measurement is made accordingly. The steady tone indicates floating liquid hydrocarbons (FLH). In this case, the depth-to-product (DTP) indication and the DTP measurement is made accordingly.

The process of lowering and raising the probe must be repeated several times to ensure accurate measurements. The DTW and DTP measurements are recorded on the liquid-level data sheet When FLH are indicated by the probe's response, a product bailer is lowered partially through the FLH water interface to confirm the FLH thickness, particularly in cases where the FLH layer is quite thin. This measurement is recorded on the data sheet as "FLH thickness"

In order to avoid cross-contamination of wells during the liquidlevel measurement process, wells are measured in the order of "clean" to "dirty" (where such information is available). In addition, all measurement equipment is cleaned with solution and thoroughly rinsed with deionized water before use, between measurements in respective wells, and at the completion of the day's use

# APPENDIX B FIELD DATA SHEETS



### Groundwater Level Data Sheet

Project RMA01.001
Location Santa Rosa, CA
Date 9113/05
Recorded By RCM

	<u> </u>	1	TOCOTH TO	ОЕРТН ТС	TOEPTH TO	WATER	WELL	PURGE	COMMENTS /
	WELL NAME	TIME	PRODUCT	WATER	воттом	COLUMN	VOLUME		OBSERVATIONS
6"	IVAIVIL	1115	1 110000	999	23.70		20.15	60.46	
V /f	MW-1	1117		011	77 80		8.15	2447	
4"	1-2	1110		7.75	22,00	12.55		50 19	<del> </del>
4"	-3	11105		111.02	22:40	11.38	7:39	00	
) (I		1100		1948	12340	113.92	12,22	6.68	
<u></u>	<b>V</b>	1100		1910		1			
					<u> </u>		<u> </u>		
								<u> </u>	
	·								1
į									
					·				
								•	
}									
					<u></u>		<u> </u>		
			·		,				
ŀ				·					
ļ									·
								<del></del>	
Ī									
}	····		4						
}									
-					· · · · · · · · · · · · · · · · · · ·				
ļ						į			
-									
-									
			İ						

ENVIROTECHTING

Monitoring Data

Projuct: Rotten Robbie Stn # 60
Project Number RMAO1.001

Date: 9/(3/05

Recorded By: RCM

E COMMENTS/OBSERVATIONS	U:			1.	Same of Sold		1 7	June 2 0	100 of	Sample of Colonials	gen		(34,126) 152B
11	TEMOVED!	2,25	4 SP	17 7		9	74	\ \	2	2	2	2	09
DISSOLVED	NED I VO												
COND,	(malan)	920	816	900	096	0±b	975	1223	1277	1266	(394)	863	1430
Hd.	<u> </u>	40	7-0	7.0	4.9	4.9	6.4	6.4	6.5	65	6.4	6.4	2.9
TEMP (deg ©		20.5	20.6	20.3	18,9	6	19,0	ガル	H.H.	7.7	7/7	21.3	20.8
TIME	707	(2)	([59	12	(707)	1208	23	1303	(309)	1505	132	1405	1418
WELL	4	N N		>	KN-3		>	C-MW		>	MW-[		$\rightarrow$

TEMPPH.XLS 4/1/97

#### APPENDIX C

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY FORM

(3)=(C)(3) DI. for oxyg.= PRINTNAMECOMPANY N View N SPECIAL INSTRUCTIONS 0.50 ug/L. INVOICE TO of. GLOBAL D. T0609778353 QUOTES. PRESIRVATIVES (1) HCL. \*52 HELD CONDITIONS 2 THREADOND TIME IN DAYS CHUTRACKER IDS REPORT COMPOSITE XXXX 940 Z ANALYSIS REQUESTED WHICH DAY ON CHAIN шСх  $\times \times$ ×× ALE RUTHNING TIME AIR BILL # 40 00 m CLS ID. NO. CONDITIONS/COMMENTS ×.  $\times$ 20 M 00 20 CO × × X. Care E. Yeard  $\times$  $\times_{i}$ a) 00 **PRESERVATIVES** -CHAIN OF CUSTODY Voa/A DATECTIME Voa/A TYPE VoarA VosA (15.5) (916) 638-7301 CONTAINER 3249 Firzgerald Road Rancho Cordova, CA War collection alapsi RMA01.001-QM Destination Laboratory Chert Job Number n) · -DATECTIME: 9,19-C OTHER MATRIX PRINT NAMESCONTANT OTHER маке Water. Water WHEN CALIFORNIA ABORATORY SERVICES FIELD NW-2 MW-3 7-212 1-14-X ≘ 11244 Pyrites Wy., Gold River, CA 95670 S SAMPLE IDENTIFICATION TED EX Rotten Rublie Service Station 460 SUSPECTED CONSTITUENTS Apex Enviratech, Inc. Z MW-3 E-MM MW.4 RETUNDING HEIDAM (SIRVERAN) RECEIVED AT LAB BY: Site Location 55 Yorld Road, Santa Resa 500 TIME SHIPPED BY: Protect Manager Rebekalt Westrap Name: and Address Report To: Job Description Process Name Sampled By 3110

3249 Fitzgerald Road Rancho Cordova, CA 95742

September 22, 2005

CLS Work Order #: COI0609 COC #: No NUmber

Rebekah Westrup APEX Envirotech Inc. - Gold River 11244 Pyrites Way Gold River, CA 95670

Project Name: Rotten Robbie Service Station #60

Enclosed are the results of analyses for samples received by the laboratory on 09/19/05 10:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely

James Liang, Ph.D. Laboratory Director

09/22/05 14:33

APEX Envirotech Inc - Gold River

Project: Rotten Robbie Service Station #60
CLS Work Order #: COI0609

11244 Pyrites Way Gold River, CA 95670

Project Number: RMA01 001-QM Project Manager: Rebekah Westrup

#### Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (COI0609-01) Water	Sampled: 09/13/05 15:30	Received:	09/19/05	10:00					
Diesel	6.9	0 10	mg/L	2	CO07154	09/20/05	09/20/05	EPA 8015M	DSL-1
MW-2 (COI0609-02) Water	Sampled: 09/13/05 15:20	Received:	09/19/05	10:00					
Diesel	ND	0 050	mg/L	1	CO07154	09/20/05	09/20/05	EPA 8015M	
MW-3 (COI0609-03) Water	Sampled: 09/13/05 15:10	Received:	09/19/05	10:00					
Diesel	ND	0.050	mg/L	1	CO07154	09/20/05	09/20/05	EPA 8015M	
MW-4 (COI0609-04) Water	Sampled: 09/13/05 15:00	Received:	09/19/05	10:00					
Diesel	ND	0.050	mg/L	1	CO07154	09/20/05	09/20/05	EPA 8015M	

09/22/05 14:33

APEX Envirotech Inc - Gold River

11244 Pyrites Way Gold River, CA 95670

Project: Rotten Robbie Service Station #60 CLS Work Order #: COI0609

Project Number: RMA01 001-QM

Project Manager: Rebekah Westrup

#### Gas/BTEX by GC PID/FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (COI0609-01) Water	Sampled: 09/13/05 15:30	Received:	09/19/05	10:00					
Gasoline	21000	2500	μg/L	50	CO07155	09/20/05	09/20/05	8015M/8021B	GC-25
Benzene	940	25	D	D	н	н	ii.	D	
I oluene	1300	25	17	11	#1	п	It	II.	
Ethylbenzene	1300	25	n	,	•	9	н	И	
Xylenes (total)	3800	50	н	H	U		н	М	
Surrogate o-Chlorotoluene (C	Gas)	920%	6.5	-135	н	n	n	I.	
MW-2 (COI0609-02) Water	Sampled: 09/13/05 15:20	Received:	09/19/05	10:00					
Gasoline	550	250	μg/L	5	CO07155	09/20/05	09/20/05	8015M/8021B	GC-25
Benzene	46	2 5	19	II .	11	п	D.	п	
I oluene	6.5	2.5	н	H	a a	11	R	l)	
Ethylbenzene	17	2.5	11	71	11	11	Ħ	U	
Xylenes (total)	17	5.0	п	u	"	u	И	D	
Surrogate o-Chlorotoluene (C	Gas)	950%	65	-135	n	н	ø	ø	
MW-3 (COI0609-03) Water	Sampled: 09/13/05 15:10	Received:	09/19/05	10:00					
Gasoline	ND	50	μg/L	1	CO07155	09/20/05	09/20/05	8015M/8021B	
Benzene	ND	0.50	a a	44	н	н	11	U	
Toluene	ND	0.50	1	ı	ti	н	H	U	
Ethylbenzene	ND	0 50	U	U	11	11	1	D	
Xylenes (total)	ND	1.0	0	n	11	11	н	It	
Surrogate o-Chlorotoluene (G	Gas)	94 5 %	65-	-135	н	H	n	ø	
MW-4 (COI0609-04) Water	Sampled: 09/13/05 15:00	Received:	09/19/05	10:00					
Gasoline	ND	50	μg/I	1	CO07155	09/20/05	09/20/05	8015M/8021B	
Benzene	ND	0 50	11	11	н	II.	u ·	II .	
Toluene	ND	0 50	U	11	1	15	D	11	
Ethylbenzene	ND	0 50	U	U	11	н	D	11	
Xylenes (total)	ND	1.0	D	D	11	н	н	ı	
Surrogate o-Chlorotoluene (G	Gas)	94.0 %	65-	-1.35	"	u	"	H	

09/22/05 14:33

APEX Envirotech Inc. - Gold River

11244 Pyrites Way

Gold River, CA 95670

Project: Rotten Robbie Service Station #60 CLS Work Order #: COI0609

Project Number: RMA01 001-QM

Project Manager: Rebekah Westrup

#### Non-halogenated Organic Compounds by EPA 8015

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (COI0609-01) Water	Sampled: 09/13/05 15:30	Received:	09/19/05	10:00					
Ethanol	ND	2 0	mg/L	1	CO07092	09/19/05	09/19/05	EPA 8015B	
Methanol	ND	2 0	*1	U	u	п	11	Ħ	
MW-2 (COI0609-02) Water	Sampled: 09/13/05 15:20	Received:	09/19/05	10:00					
Ethanol	ND	2.0	mg/L	1	CO07092	09/19/05	09/19/05	EPA 8015B	
Methanol	ND	2.0	19	11	**	n	If	II.	
MW-3 (COI0609-03) Water	Sampled: 09/13/05 15:10	Received:	09/19/05	10:00					
Ethanol	ND	2 0	mg/L	1	CO07092	09/19/05	09/19/05	EPA 8015B	
Methanol	ND	2.0	19	Ħ	11	U	0	*fI	
MW-4 (COI0609-04) Water	Sampled: 09/13/05 15:00	Received:	09/19/05	10:00					
Ethanol	ND	2 0	mg/L	ı	CO07092	09/19/05	09/19/05	EPA 8015B	
Methanol	ND	2 0	U	11	II	11	41	P	

09/22/05 14:33

APEX Envirotech Inc. - Gold River

11244 Pyrites Way

Gold River, CA 95670

Project: Rotten Robbie Service Station #60 CLS Work Order #: COI0609

Project Number: RMA01 001-QM

Project Manager: Rebekah Westrup

**Volatile Organic Compounds by EPA Method 8260B** 

Analyte	Result	Reporting I imit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (COI0609-01) Water	Sampled: 09/13/05 15:30	Received:	09/19/05	10:00					****
Di-isopropyl ether	ND	100	μg/L	200	CO07086	09/19/05	09/19/05	EPA 8260B	
Ethyl tert-butyl ether	ND	100	"	It	H	**	Ħ	11	
Methyl tert-butyl ether	2800	100	н	Ħ	9	11	н	a	
tert-Amyl methyl ether	ND	100	a a	11	11	D.	11	D	
Tert-butyl alcohol	ND	1000	,	U	U	n	1	n	
1,2-Dibromoethane (EDB)	ND	100	D	11	**	n	U	)†	
1,2-Dichloroethane	ND	100	)1	H	"	Ħ	0	PF	
Surrogate Toluene-d8		75 4 %	72-	125	v	n	4	,	
MW-2 (COI0609-02) Water	Sampled: 09/13/05 15:20	Received:	09/19/05	10:00					
Di-isopropyl ether	ND	250	μg/L	500	CO07086	09/19/05	09/19/05	EPA 8260B	
Ethyl tert-butyl ether	ND	250	11	11	H	ü	It	11	
Methyl tert-butyl ether	3000	250	II.	Ü	II.	19	н	a	
tert-Amyl methyl ether	ND	250	"	U	II	11	Ħ	U	
I ert-butyl alcohol	8700	2500	17	1+	н	u	U	D	
1,2-Dibromoethane (EDB)	ND	250	Ħ	H	n	*1	D	14	
1,2-Dichloroethane	ND	250	11	41	н	п	D	11	
Surrogate Toluene-d8		77 3 %	72-	125	,,	"	n	n	
MW-3 (COI0609-03) Water	Sampled: 09/13/05 15:10	Received: (	09/19/05	10:00					
Di-isopropyl ether	ND	0.50	μg/L	1	CO07086	09/19/05	09/19/05	EPA 8260B	
Ethyl tert-butyl ether	ND	0 50	II.	D	a	11	и	11	
Methyl tert-butyl ether	95	0 50	11	11	н	11	н	U	
tert-Amyl methyl ether	ND	0 50	11	н	*	н	U	D	
Tert-butyl alcohol	140	5.0	Œ	41	U	II .	D	17	
1,2-Dibromoethane (EDB)	ND	0.50	U	U	11	o o	ų	н	
1,2-Dichloroethane	ND	0.50	D ····	n	1	U	и	H	
Surrogate Toluene-d8		77 8 %	72	125	"	"	n		

09/22/05 14:33

APEX Envirotech Inc. - Gold River

Project: Rotten Robbie Service Station #60 CLS Work Order #: COI0609

11244 Pyrites Way Gold River, CA 95670 Project Number: RMA01 001-QM

Project Manager: Rebekah Westrup

#### Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-4 (COI0609-04) Water	Sampled: 09/13/05 15:00	Received:	09/19/05	10:00					
Di-isopropyl ether	ND	0.50	μg/L	1	CO07086	09/19/05	09/19/05	EPA 8260B	
Ethyl tert-butyl ether	ND	0.50	U	U	u	U	It	1+	
Methyl tert-butyl ether	15	0 50	D	n	n,	н	и	H	
tert-Amyl methyl ether	ND	0 50	H	II	II .	n	н	н	
Tert-butyl alcohol	ND	5.0	н	"	H	н	11	a	
1,2-Dibromoethane (EDB)	ND	0 50	н	и	n	11	v	U	
1,2-Dichloroethane	ND	0.50	11	u	н	II	U	U	
G									
Surrogate Toluene-d8		77 4 %	72-	125	"	"	"	"	

09/22/05 14:33

APEX Envirotech Inc - Gold River

Project: Rotten Robbie Service Station #60
CLS Work Order #: CO10609

11244 Pyrites Way Gold River, CA 95670 Project Number: RMA01 001-QM

Project Manager: Rebekah Westrup

#### Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CO07154 - EPA 3510B GCNV										
Blank (CO07154-BLK1)				Prepared	& Analyz	ed: 09/20/	05			
Diesel	ND	0 050	mg/L							
Motor Oil	ND	0.050	r							
LCS (CO07154-BS1)				Prepared	& Analyz	ed: 09/20/	05			
Diesel	2 80	0 050	mg/Ĺ	2 50		112	65-135		*****	
LCS Dup (CO07154-BSD1)				Prepared	& Analyz	ed: 09/20/	05			
Diesel	2 77	0.050	mg/L	2.50		111	65-135	1 08	30	
Matrix Spike (CO07154-MS1)	So	urce: COI061	5-01	Prepared a	& Analyze	ed: 09/20/	05			
Diesel	2 55	0.050	mg/L	2 50	ND	102	46-137			
Matrix Spike Dup (CO07154-MSD1)	So	urce: COI061	5-01	Prepared a	& Analyze	ed: 09/20/	05			
Diesel	2 55	0 050	mg/L	2 50	ND	102	46-137	0 00	30	

09/22/05 14:33

APEX Envirotech Inc - Gold River

11244 Pyrites Way Gold River, CA 95670

Project: Rotten Robbie Service Station #60 CLS Work Order #: COI0609

Project Number: RMA01 001-QM

Project Manager: Rebekah Westrup

#### Gas/BTEX by GC PID/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CO07155 - EPA 5030 Water GC										
Blank (CO07155-BLK1)				Prepared	& Analyze	ed: 09/20/	<del></del> 05			
Gasoline	ND	50	μg/L							
Benzene	ND	0.50	n							
Ioluene	ND	0 50	н							
Ethylbenzene	ND	0 50	u							
Xylenes (total)	ND	1.0	D							
Surrogate o-Chlorotoluene (BTEX)	208		"	20 0		104	65-135	· · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
Surrogate. o-Chlorotoluene (Gas)	19 4		"	20 0		97.0	65-135			
LCS (CO07155-BS1)				Prepared a	& Analyze	:d: 09/20/0	)5			
Gasoline	431	50	μg/L	500	<u> </u>	86.2	65-135			
Surrogate. o-Chlorotoluene (Gas)	188		n	20 0		94 0	65-1.3.5			
LCS Dup (CO07155-BSD1)				Prepared 6	& Analyze	:d: 09/20/0	)5			
Gasoline	457	50	μg/L	500		91.4	65-135	5 86	30	
Surrogate o-Chlorotoluene (Gas)	20 9		ıı	20 0		104	65-13.5			
Matrix Spike (CO07155-MS1)	Sor	ırce: COI061	5-01	Prepared &	& Analyze	d: 09/20/0	)5			
Gasoline	457	50	μg/L	500	ND	91.4	65-135		<del></del>	
Surrogate o-Chlorotoluene (Gas)	20 3		н	20.0		102	65-135			
Matrix Spike Dup (CO07155-MSD1)	Sou	ırce: COI061	5-01	Prepared &	& Analyze	d: 09/20/0	)5			
Gasoline	380	50	μg/L	500	ND	76.0	65-135	18 4	30	
Surrogate o-Chlorotoluene (Gas)	20.2		"	20.0		101	65-135			

09/22/05 14:33

APEX Envirotech Inc - Gold River

Project: Rotten Robbie Service Station #60 CLS Work Order #: COI0609

11244 Pyrites Way Gold River, CA 95670 Project Number: RMA01 001-QM

Project Manager: Rebekah Westrup

#### Non-halogenated Organic Compounds by EPA 8015 - Quality Control

										141000
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CO07092 - Direct Inj. GCNV										_
Blank (CO07092-BLK1)				Prepared	& Analyz	ed: 09/19/	05			
Ethanol	ND	2 0	mg/L							
Methanol	ND	2 0	11							
LCS (CO07092-BS1)				Prepared	& Analyzo	ed: 09/19/	05			
Methanol	43 6	2 0	mg/L	50 0		87 2	75-125			•
LCS Dup (CO07092-BSD1)				Prepared	& Analyze	ed: 09/19/	05			
Methanol	50 5	20	mg/L	50 0		101	75-125	14 7	30	
Matrix Spike (CO07092-MS1)	Son	arce: CO1055	59-01	Prepared .	& Analyze	ed: 09/19/0	05			
Methanol	45 8	2 0	mg/L	50.0	ND	916	75-125			
Matrix Spike Dup (CO07092-MSD1)	Sou	ırce: COI05	59-01	Prepared a	& Analyze	ed: 09/19/0	05			
Methanol	48 2	2.0	mg/L	50.0	ND	96 4	75-125	5 11	30	

09/22/05 14:33

APEX Envirotech Inc - Gold River

Project: Rotten Robbie Service Station #60 CLS Work Order #: COI0609

11244 Pyrites Way Gold River, CA 95670 Project Number: RMA01.001-QM

Project Manager: Rebekah Westrup

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CO07086 - EPA 5030 Wat	er MS									
Blank (CO07086-BLK1)				Prepared	& Analyze	ed: 09/19/0	05			
Di-isopropyl ether	ND	0 50	μg/L							
Ethyl tert-butyl ether	ND	0 50	*							
Methyl tert-butyl ether	ND	0 50	11							
tert-Amyl methyl ether	ND	0 50	u							
Tert-butyl alcohol	ND	5 0	U							
Surrogate Toluene-d8	8.14		"	10 0		81 4	72-125			
LCS (CO07086-BS1)				Prepared	& Analyze	ed: 09/19/0	)5			
Methyl tert-butyl ether	20 5	0 50	μg/L	20 0		102	52-130			
Surrogate Toluene-d8	9 21		"	10 0		92 I	72-125			
LCS Dup (CO07086-BSD1)				Prepared a	& Analyze	ed: 09/19/0	)5			
Methyl tert-butyl ether	19 9	0 50	μg/L	20.0		99 5	52-130	2 97	30	
Surrogate Toluene-d8	9.38		"	100		938	72-12.5			

09/22/05 14:33

APEX Envirotech Inc - Gold River

Project: Rotten Robbie Service Station #60
CL S Work Order #: COI0609

11244 Pyrites Way Gold River, CA 95670

Project Number: RMA01.001-QM Project Manager: Rebekah Westrup

#### **Notes and Definitions**

GC-25 Weathered gasoline

DSL-1 Although sample contains compounds in the retention time range associated with diesel, the chromatogram was not consistent

with the expected chromatographic pattern or "fingerprint" However, the reported concentration is based on diesel

DET Analyte DETECTED

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference